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ABSTRACT

Teacher Self-Appraisal (TAS) is intended to help teachers in evaluating their daily teaching activity by means of a video-tape record. The process involves four phases: 1) determining objectives and appropriate teaching methods; 2) making the video tape; 3) observing the tape and recording the information on a coding card; and 4) analyzing the information. The system has produced a marked increase in teacher awareness, an improvement in teacher morale, an improvement in methods of instruction, and a significant increase in student achievement. The nine levels of objectives used are based on Bloom's Taxonomy of Educational Objectives, with three in the affective category and six in the cognitive. The methods used are either closed--lecture, demonstration, direction, question, mastery, and problemsolving--or open--clarification, inquiry, and dialogue. The teacher's expressions are divided into seven verbal and seven nonverbal categories of support, helping, receptive, routine, inattentive, unresponsive, and disapproval. The document includes transcripts and analyses of training tapes for four elementary sessions in social studies, arithmetic, reading, and science, and five secondary sessions in English, algebra, French, chemistry, and American problems. Four appendixes give TSA observation terms and definitions, ground rules for coding, suggested readings and resources, and brief information on computer analysis. (MBM)

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TEACHER SELF-APPRAISAL SOURCE BOOK

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PREFACE

On the need to improve the quality of classroom instruction, everyone agrees. A wide range of observers, theorists, and educators have sought insight into this problem. The fact still remains that in these days of intensive research activity aimed at studying the teaching-learning process, we still know little about how to improve teacher performance. There is, in some quarters, concern that the strategies, tactics, and writings of the learning theorists are of little practical value to the teacher who must daily face the challenges of the classroom while searching for ways to improve his or her performance.

Teacher Self-Appraisal, by means of the modern technology of video tape, aims to assist each teacher in becoming an *observer* of his or her daily teaching activity. The intent is to provide the individual teacher the opportunity to step back from his own classroom experiences, view them honestly and analytically, so that he may seek practical ways of improving the performance of his instruction.

In order to assist the teacher in developing self-appraisal skills, the Teacher Self-Appraisal Source Book, TSA Work Books,

and the TSA Video Training Tapes have been developed. These materials are designed to aid the teacher in evaluating his teaching effectiveness and to provide him some guidelines for improving instruction.

ACKNOWLEDGMENTS

TSA owes its development to many, a significant number are the teachers who, by using it, have quietly shaped and refined this technique. The following people were particularly instrumental in the development and use to date of the Teacher Self-Appraisal Observation System:

Charles Grubbs (Research Director, Tucson Public Schools) provided the author the opportunity to pursue the development of the TSA Observation System, while Elbert Brooks (Deputy Superintendent, Tucson Public Schools) gave district support and field tested the system in a district TSA in-service program. During the development of the TSA system, Paul Allen (University of Arizona) provided suggestions and philosophical support, as did William D. Barnes (University of Arizona), who directed the actual construction of the TSA Observation System as part of my dissertation work.

Instrumental in the development of the implementation procedures for the TSA System were Sam Polito, Barbara Riley, Cathy Moss and Terry Larsen. Elinor Markert developed the

IBM Card format and the computer program for analyzing TSA data.

In 1967 Owen Smith (Orange Unified Schools) and volunteer teachers of the Esplanade, Killifer and Jordan Elementary Schools assisted in the field testing of the TSA Observation System. Ray Weidner (Hopkins, Minnesota) and Ken Shibata (Lincoln, Nebraska) succesfully implemented the system in teacher in-service programs during 1968. Phil Barck, Jerry Booth, Robert Carlson and Dick Powell (EPIC Evaluation Center) assisted in the refinement and implementation of the TSA Observation System. Ray Weidner, Gary Stranridge, Betty Darke, Lucinda Landrith, Diane Steidl, Don Roberson, Jerry Booth, Jim Peterson, Jim Crooks, Jean Conger, Ann Branham, Jerry Kindred and Nancy Nelson assisted in the refinement and production of video tapes and in the development of the TSA training materials. The TSA covers were designed by Sandy Weir and the text illustrations were produced by Verne Andersen.

Throughout the development of the TSA materials and tapes, the author was encouraged and assisted by a teacher of the finest vintage, his wife, Nancy.

E. WAYNE ROBERSON
Tucson, Arizona
December, 1969

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WHAT IS TSA?

The Teacher Self-Appraisal Observation System (TSA) is a tool a teacher can use to observe and evaluate his performance in the classroom.

The TSA process involves four phases. First, the teacher must define what he wants the students to learn and how he intends to accomplish that end. This means that the teacher must determine his objectives and select appropriate teaching methods. The second phase is to make a video-tape of the lesson he has planned. A camera and video tape recorder are set up in the classroom to record the teacher's performance.

The third phase involves playing back the tape, observing the teaching, and marking on a TSA card at regular intervals (ten seconds):

1. The teaching method the teacher is using;
2. The affective objective the teacher intends;
3. The cognitive objective the teacher desires;
4. The teacher's verbal expression; and
5. The teacher's non-verbal expression.

The fourth phase includes the analysis of the collected TSA information .In this phase the teacher compares his planned performance with his actual performance.

The methods, objectives and the expressions that a teacher may use in the classroom have been carefully defined (Appendix A) and categorized on a TSA coding card,

METHOD	OBJECTIVES		EXPRESSIONS	
CLOSED	AFFECTIVE	COGNITIVE	VERBAL	NON-VERBAL
—0— Lecture-Talk	—0— Receive	—0— Know	—0— Support	—0—
—1— Quest. -Ans.	—1— Respond	—1— Comprehend	—1— Helping	—1—
—2— Demonstrate	—2— Value	—2— Apply	—2— Receptive	—2—
—3— Direction		—3— Analyze	—3— Routine	—3—
—4— Mastery-Drill		—4— Synthesize	—4— Inattentive	—4—
—5— Prob. Solv.		—5 – Evaluate	—5— Unresponsive	—5—
OPEN			—6— Disapproval	—6—
—7— Clarification				
—8— Inquiry	—8— Repeat Previous Card			
—9— Dialogue				

TEACHER SELF-APPRAISAL
OBSERVATION SYSTEM

so that in evaluating his performance every ten seconds, the teacher need only mark the observed behavior on the card.

For example, there are nine possible methods a teacher may use to teach a lesson: he may lecture, demonstrate, give specific directions, ask questions, etc. Similarly, there are nine levels of objectives listed on the card that the teacher may be trying to accomplish. These objectives are defined in terms of the intended student behavior. For instance, the teacher may be attempting to have the student recall information from a previous lesson, or

he may be asking the student to apply previously learned information to a new situation, etc.

The possible kinds of verbal or non-verbal expressions the teacher uses in the classroom have also been listed on the coding card. A teacher may be supportive, by praising or repeating a student's response, or he may simply ignore a student. Therefore, using the levels described on the TSA coding card, in replaying the tape the teacher simply checks at each beep on the tape the level of method, objective and expression he sees himself using. It is through this process that the TSA observation system can help the teacher become aware of his behavior in the classroom.

WHY TSA?

The Teacher Self-Appraisal observation system (TSA) thus yields a tally of the teacher's methods, objectives, and expressions observed from the classroom performance. This permits a comparison of what actually occurred in the classroom with what the teacher intended to have happen.

For example, a teacher may discover that a five-minute demonstration took thirty minutes and allowed far less time than planned for students to discuss the demonstration. Or a teacher may discover that the questions that he asked required only that students simply recall information (i.e., "When did Columbus discover America?"), instead of analyzing or applying certain information to a new situation (i.e., "How did Columbus' dis-

covery affect history?"). Perhaps the teacher may become aware that he rarely utilized or encouraged student responses therefore limiting classroom discussion.

Besides allowing a comparison of planned performance to actual performance, TSA provides the teacher the opportunity to analyze his goals and methods, a process that is frequently forgotten as teaching becomes a routine process. A teacher, by using the TSA Observation System, can gain invaluable insight into his effectiveness in guiding learning activities. He may become aware that the demonstration he has performed for years doesn't accomplish his intended objectives, that he rarely encourages students to analyze or evaluate new materials, or that his frequent reprimands threaten students and discourage participation and interaction. A teacher may gain an entirely different perception of his strengths and weaknesses and, through self-appraisal, greatly improve the effectiveness of his teaching. It is the teacher alone that determines the objectives, the methods and the improvements. TSA permits each individual teacher to develop his *own* model of "good" teaching, and to evaluate his *own* effectiveness.

TSA places the emphasis and responsibility for effective teaching where it should be — on the teacher — by providing a means for systematically collecting information on teacher behavior and a way to evaluate the effectiveness of classroom performance. It provides the teacher an opportunity to use objective measurement in studying his own teaching style. TSA does not propose a single panacea for the complexities of teaching; rather, it suggests a way that the teacher can become aware of techniques that best fit his personality and extend his repertoire of effective teaching skills. TSA is valuable because it can compel

a continuous process of description, evaluation and growth by teachers themselves.

An important result in all TSA programs has been an increased teacher awareness of the effect of different instructional patterns. In an atmosphere of openness, each teacher can develop a feeling of inquiry and, in turn, expand his mastery of teaching skills. School districts in Arizona, California, Minnesota and Nebraska have shown a marked increase in teacher awareness of what he is doing in the classroom, an improvement of teacher morale and attitude, an improvement in methods of instruction and, most importantly, a significant increase in student achievement.

TSA

TSA DEFINITIONS

In order to use TSA, a teacher must write out a lesson plan describing the objectives he intends to accomplish and the methods by which he will attain these objectives. After the videotape of the lesson is made, the teacher then observes the tape and records on the coding cards the objectives, methods and expressions used during the lesson. The categories of objectives, methods and expressions that are used *BOTH* to plan and to code the lesson are described in this section.

OBJECTIVES

The nine levels of objectives used in the TSA Observation System are based on the *Taxonomy of Educational Objectives.*[1] Each level describes a specific behavior the teacher wishes to elicit from the student. The behaviors are divided into two categories: those that affect the emotions or attitudes of the

[1]Benjamin S. Bloom, et al., *Taxonomy of Educational Objectives*, Handbook I: Cognitive Domain. New York: David McKay Company, Inc., 1956.
David R. Krathwohl, et al., *Taxonomy of Educational Objectives*, Handbook II: Affective Domain. New York: David McKay Company, Inc., 1964.

student, defined as the AFFECTIVE DOMAIN, and those that are intended to develop the student's intellect, defined as the COGNITIVE DOMAIN. In planning the lesson, it is important that the teacher make the objectives as explicit as possible, not only to lend structure to the lesson, but also to facilitate a comparison between the intended and the actual objectives.

The categories and definitions follow:

Affective Objectives Category

Intended behaviors defined as interest, attitudes, values, appreciations, and beliefs of the student. The teacher desires that students become aware of, comply, or find worth in certain information or experiences.

Levels

1. *Receive*

   Teacher intends the student to listen or be conscious of current classroom activity.

2. *Respond*

   Teacher intends the student to comply.

3. *Value*

   Teacher intends the student to realize the worth of information, idea, belief, or concept, by praising with words such as "good," "beautiful," "excellent," etc.

Cognitive Objectives Category

Intended behaviors which place primary emphasis on the mental or intellectual processes of the student. The cognitive levels are arranged in a hierarchy; that is, each level demands the skills and abilities which are lower in the classification order. Cognitive objectives range from simple recall to highly abstract ways of combining new ideas and materials.

Levels

1. *Know*

   Teacher intends the student to recall specific information, for which there is only one correct answer.

2. *Comprehend*

   Teacher intends the student to translate, interpret in his own words, predict or summarize given material information.

3. *Apply*

   Teacher intends the student to use the information in a situation that is different from the situation in which it was learned.

4. *Analyze*

   Teacher intends the student to separate, compare, and establish relationships between concepts, information and ideas.

5. *Synthesize*

   Teacher intends the student to combine previously learned information and concepts into an original response that satisfies the student.

6. **Evaluate*

   Teacher intends the student to make a choice or selection from a predetermined number of alternatives.

METHODS

When the teacher has determined his objectives, or the kinds of learning he wishes to stimulate in the classroom, he must then select the methods that will accomplish the intended student responses. The choice of method is limited by the cognitive or affective level the teacher desires the student to attain. For example, if a teacher wishes to have students analyze information, a lecture method would certainly not accomplish that end.

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*NOTE: Evaluate is placed last in the cognitive levels because it is related to decision making and is not necessarily of a cognitive nature. It should be noted that it does not represent the most abstract level of cognitive behavior.

In the TSA Observation System there are nine methods[2] a teacher may use to plan his lessons.These methods are divided into two groups. The first group are those methods that demand either no response from the students, or predictable specific responses. They are defined as *closed methods*. The second group are those methods that allow students to express their opinions, ideas and perceptions, or that do not demand a single correct response. These are defined as *open methods*. Definitions of open and closed methods follow:

Closed Methods Levels

Lecture: Teacher talk or information giving.

Demonstrate: Teacher supplements talk with visual clues, chalkboard, or external props.

Direction: Teacher commands or insists that students comply.

Question: Teacher interrogative request for specific information.

Mastery: Teacher drills or practices specfics with students.

Problem Solving: Teacher sets or poses a situation which requires the student to arrive at a predetermined solution.

Open Methods Levels

Clarification: Teacher permits the student to express or elaborate feelings, opinions or thoughts without interruption.

Inquiry: Teacher pursues and challenges student statements, or permits students to question.

Dialogue: Teacher permits students to interact, react, and discuss a topic or idea with interjections, but not inhibiting behavior.

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[2]James B. MacDonald, *Gamesmanship in the Classroom*, The Bulletin of the National Association of Secondary School Principals, 50:51-68, December 1966.

EXPRESSIONS

One of the ways a teacher greatly influences learning in the classroom is by the use of verbal and non-verbal[3] expressions. Comments, facial expressions and eye contact are some of the subtle ways a teacher uses to affect the climate of the classroom and the participation of the students. The TSA Observation System provides the teacher with an opportunity to observe, record and compare the kinds of verbal and non-verbal expressions he uses in the classroom. The levels of verbal and non-verbal expressions are defined as follows:

Verbal Expressions Category

Levels

1. *Support*
   Teacher praises, repeats student response or uses student idea.

2. *Helping*
   Teacher repeats statement or gives cues and assistance that aids the students.

3. *Receptive*
   Teacher indicates to the students that the lines of communication are open.

4. *Routine*
   Teacher verbal expressions which cannot be categorized, as encouraging or inhibiting.

5. *Inattentive*
   Teacher disinterest or impatience displayed by statements such as, "hurry up," "not now," etc.

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[3]Charles M. Galloway, *An Exploratory Study of Observation Procedures for Determining Teacher Non-Verbal Communication*; unpublished Doctoral Dissertation. (University of Florida, Gainsville), 1962.

6. *Unresponsive*

   Teacher openly ignores student question, request or response.

7. *Disapproval*

   Teacher admonishes, reprimands or threatens student.

Non-Verbal Expressions Category

Levels

1. *Support*

   Teacher gestures, facial expressions and voice tone that convey approval.

2. *Helping*

   Teacher gestures, pointing and demonstrations that assist students.

3. *Receptive*

   Teacher maintains eye contact with students.

4. *Routine*

   Teacher movements and gestures that cannot be coded as encouraging or inhibiting.

5. *Inattentive*

   Teacher does not maintain eye contact with students or uses body gestures that demonstrate an unwillingness to listen.

6. *Unresponsive*

   Teacher gestures that openly ignore a student request.

7. *Disapproval*

   Teacher frowns, gestures and voice tones that convey dissatisfaction with student behavior.

HOW TO APPLY TEACHER SELF-APPRAISAL

Before examining how to use the TSA Observation System, it is important to restate the purposes of teacher self-appraisal: (1) to improve instruction, and (2) to increase learning in the classroom. The TSA Observation System is not intended to be used in teacher evaluation for the purpose of merit rating or salary adjustment but for the teacher's profesional improvement. With these purposes in mind, what is the first thing a teacher interested in using TSA must do?

Phase I — Planning

The first step is to plan your classroom performance. How do you wish to modify the behavior or attitudes of your students? How do you want them to have changed when they leave your classroom? In order to determine objectives, there are a series of questions that can be asked:

1. Are you interested in affecting the students' beliefs, attitudes, interests or values?
   (a) If so, are you interested in merely exposing your

students to certain information and ideas?

(b) Then, do you want the students to passivly listen or to respond by engaging in some activity?

(c) Are you interested in changing the attitude of the students toward the worth or value of some object, idea or behavior?

2. Are you interested in developing the mental or intellectual processes of the students?

   (a) If so, do you simply want your students to recall or remember information?

   (b) Are you concerned that students comprehend some specific material; that they are able to paraphrase, interpret, summarize, without relating to other material?

   (c) Do you want students to be able to apply information previously learned to a new situation?

   (d) Do you want your students to make an analysis of material; to compare and relate information, to distinguish facts from hypotheses, to check the validity of a conclusion?

   (e) Are you interested in having the students synthesize material; to find relationships and patterns not seen before?

Once you have determined your objectives, you must then select the appropriate methods for achieving those objectives. Here are some questions that you might ask yourself when planning the methods you will use in your class:

1. If you are interested in merely exposing students to ideas or information would a visual aid clarify the material, or is a lecture sufficient?
2. If you want to interest the student in a new activity, would the student's interest be increased by actively participating, or would a demonstration suffice?
3. If you want students to be able to apply informtion to a

new situation, should you lecture on how this is done or pose a situation where the students can discover the solution for themselves, or both?

4. What method would be most effective for teaching students to find new relationships and patterns?
5. If you are interested in having students explore ideas, would the twenty questions technique, using only yes-no responses, encourage this exploration?
6. If you desire students to know specific information, should you allow students to express their opinions freely, or have students drill and practice the information?

Phase II — Taping Classroom Performance

After the activities of the classroom have been planned, the teacher is ready for the taping. At the request of the teacher, the date and time are scheduled with the person responsible for the taping equipment, and the second phase of TSA will begin. In order to produce a video tape a television camera is necessary to receive both a video and auditory signal, and to transmit the images to a recording system. A video tape recorder retains images and sounds on tape much in the same manner as an audio tape recorder retains sounds. One or more microphones are necessary, depending upon the size of the room and number of students involved. Perhaps some teacher might want to make some preliminary tapings in order to feel at home before the cameras. Past experience has indicated that four or five brief preliminary tapings help the teacher to become himself in front of the camera. When pre-

liminary preparation is completed, the teacher can make the record or video tape of what actually happens in his classroom.

Phase III — Coding

When the taping has been completed, the teacher will have in his possession an actual visual record of his classroom performance. He is free to look at the tape alone or to invite other teachers or administrators to view it with him. It is important to remember that the tape is entirely the property of the teacher; he can keep it, erase it, view it alone, or invite only his closest friend to a showing.

It is intended to be a device to aid the teacher in his own improvement and to be used by no one else for other purposes.

Once the tape is made, the teacher can code it. He may wish to do it himself or to have someone else do it for him. In order to avoid misperceptions, the observer should have the following information concerning the taped performance:

1. the size of the group;
2. the topic;
3. whether the class was reviewing, discussing or being introduced to new material;
4. the intended methods of the teacher and an estimated percentage of use;
5. the intended objective levels and an estimated percentage intended.

The person who is coding the tape sits in front of the video tape recorder and monitor, with a deck of TSA coding cards on which are listed the levels of methods, objectives and expressions the teacher may use. TSA definitions are found in Appendix A. TSA Ground Rules for coding are located in Appendix B.

As the video tape is replayed, a beep will sound every ten seconds. When the beep is heard, the person coding stops the video tape and marks the method, affective and cognitive objectives, and verbal and non-verbal expressions used by the teacher at that instant.

After the card is coded for the first interval, the observer removes the first card from the TSA deck and begins the tape again until the second beep is heard. He then stops the tape and records the method, objectives and expressions observed at that instant *on a second card*. This procedure is continued until the tape has ended.

After the coding is complete, the observer has a deck of coding cards or a tally of the frequence of methods used, cognitive levels of behavior in which the teacher intended student response, and the ways the teacher expressed himself verbally and non-verbally. This coding can provide the teacher with the (1) percentage of time spent utilizing certain methods, (2) percentage of time spent encouraging or inhibiting interaction, (3) the range of cognitive behaviors, or (4) whether the students were responding or merely receiving or listening. The frequency with which the various categories were used can be tallied by the teacher himself or by a computer. TSA computer analysis information is located in Appendix D.

Phase IV — Analysis

When the tally of the levels is made, the teacher can compare his planning phase with the performance phase of teaching. This process will help the teacher to determine how effective he was in accomplishing his intentions or objectives. He can also test his students at the cognitive level he intended, to see if they are able to respond at that level. This testing will help validate his teaching effectiveness.

Suppose a teacher had intended to have a classroom discussion using the methods of inquiry and student clarification, and had planned for a large amount of student response at the analysis level. During the discussion, so as not to bias student

opinion, he wanted to maintain routine expressions. When the analysis came back, however, he discovered that he used only closed methods, there was very little student response, and these responses were never above the cognitive level of comprehend. What does this tell the teacher?

It might communicate to the teacher that he needs to develop certain teaching skills in order to enhance his classroom interaction. For example, maybe he did not ask the appropriate types of questions to facilitate student discussions. Possibly the questions he asked did not permit students to express their opinions and feelings. Maybe after students responded he did not know how to use that student response and build on it in order to increase the discussion. Now, as a result of this diagnosis and analysis, the teacher may want to develop some basic teaching skills[4] to improve instruction. Therefore, an habitual analysis of teaching performance using some systematic observation system may encourage a teacher to continue to grow, develop and improve in his professional career. In order to provide the classroom teacher with some resources, a list of suggested readings is provided in Appendix C.

[4]*Basic Teaching Skills*, Educational Innovators Press, BECOM Corp., 630 North Craycroft, Tucson, Arizona.

TSA TRANSCRIPTS AND ANALYSES

This section of the Teacher Self-Appraisal Source Book includes the transcripts of the TSA training tapes. Following each transcript is the results in percentages and a brief analysis of the TSA training tape performance. Although the practice sessions range from only two to five minutes in length, they are representative samples of the total teacher classroom performance. The first four transcripts and analyses include elementary classroom sessions in Social Studies, Arithmetic, Reading and Science. The remaining five transcripts include secondary classroom sessions in English, Algebra I, French I, Chemistry and American Problems.

TRANSCRIPT #1

Size — Small Group

Topic — Social Studies

Situation — Review, Grade 5

Methods — Demonstrate, Question

Objectives — Know, Comprehend, Analyze

TRANSCRIPT #1

(T — Teacher)
(S — Student)

T — There is an old story about this one. If a boy friend takes his girl friend through a covered bridge, he is allowed to kiss her when he comes out on the other side. That's an old Amish myth. (Beep 1)

T — OK, now do you remember the buggy? What's unusual; yes, Leo.

S — - - - - - - - -

T — Yes, what does that mean?

S — They are married?

T — Right, now is there anything else in this picture that would be different or unusual to you? (Beep 2)

T — Yes.

S — The horse.

T — The horse, right, pulling the buggy. Now what would that indicate? Who do you think would be in the buggy? (Beep 3)

T — Leo.

S — A man and a woman.

T — Right and what would you call them probably?

S — Married people.

T — Yes, another name? (Beep 4)

T — Robert.

S — Marriage, a couple married.

S — Newlyweds.

T — Yes.

S — A man and wife.

T — Right, right, but if you saw them in the buggy, what would you, who would you immediately think they were, what group? (Beep 5)

T — In a covered buggy, buggy.
S — Amish.
T — Amish, the Amish in a covered buggy, right, that is exactly right. OK, here you see another wagon carrying them. Now what do you see different about their dress, if you were an Amish person, how would you dress that would be different from what you do now? (Beep 6)

T — Robert.
S — They use hat pins and some things too; they don't use belts.
T — No.
S — They . . .
T — What do you call them?
S — Suspenders.
T — Suspenders (Beep7)

T — is right. What would you, how would you keep your blouses shut?
S — Use pins.
T — Right.
S — Use needles.
T — Could be.
S — Use snaps.
T ,— Snaps.
S — They didn't have buttons?
T — Right, no buttons. (Beep 8)

T — Hooks and eyes. Right.
S — Hooks.
T — Right. What did they call what the women wear on their heads? Sharon.
S — A bonnet?
T — A bonnet, yes they wore a bonnet. What is the other thing that they wear all the time on their heads? (Beep 9)

T — They put their hair back in the bonnet. Yes.
S — A little comb . . . a piece of material.
T — Yes, what do they call that? Beep 10)

SOCIAL STUDIES ANALYSIS

The teacher had planned to mainly utilize the levels marked below with an asterisk.* The teacher planned for the students to *analyze* some of the Amish customs, but this did not occur. In the expressions area, the teacher verbally was encouraging 90% of the time, with no inhibiting expressions. The teacher non-verbally expressed herself in an encouraging manner 90% of the time, and only 10% of her non-verbal expressions were of an inhibiting nature, which was due to lack of eye contact. Notice that by using a variety of methods, the teacher was able to gain a range of cognitive responses, in this case five different cognitive levels, although the majority of the responses were at the knowledge level.

Social Studies Results

Method

20% Lecture Talk
30% Question*
40% Demonstrate*
10% Problem Solving

Affective

20% Receive
80% Respond*

Cognitive

60% Know*
10% Comprehend*
10% Apply
10% Synthesize
10% Evaluate

Verbal

20% Support
10% Helping
60% Receptive
10% Routine

Non-Verbal

50% Helping
40% Receptive
10% Inattentive

TRANSCRIPT #2

Size — Small Group

Topic — Arithmetic

Situation — Introducing, Grade 4

Methods — Demonstrate, Problem Solving

Objectives — Know, Comprehend, Apply

TRANSCRIPT #2

(T — Teacher)
(S — Student)

T — How many people noticed the speedometer on your father's and mother's car? Do you see all the little numbers down there? Well, look, I made one very similar to that and mine can read four numbers. (Beep 1)

T — Let's play a little game. Let's say that our car today reads this many miles on it. (Beep 2)

T — Who can tell me how many miles we have on our car today? Judy.
S — Forty-five.
T — Read it across now. (Beep 3)

S — Four.
T — All right, Theresa.
S — Four hundred fifty.
T — Four hundred (Beep 4)

T — fifty miles. I am going to drive ten miles. Camile, could you come and show me how my speedometer would read then after driving ten miles? Camile (Beep 5)

T — could
S — I can do it.
T — Camile, well I will get you in just one minute Sebastian. What would we change here? Can you change it for us? It is four hundred fifty miles. We are going to drive ten more miles. Which one of the places is going to change? (Beep 6)

S — I know.
T — How many?
S — I know.
T — How many tens are showing on here, Camile? (Beep 7)

S — Five.

T — And if we go ten more. One group of ten more. What will that change, instead of being fifty it will be what? (Beep 8)

S — I know, sixty.

T — Sixty. Roy helped you. Can you make that sixty for us, please? Just pull on the card. Pull it up. All right. (Beep 9)

T — Now, four hundred sixty. I am going on a real long trip. Right after this I will go one thousand more miles. What will my car read then?

S — I know.

T — All right, Mike, do you want to come up and show us?

S — What did you say again, how far?

T — All right, we want to drive one thousand more miles. What are we going to change? (Beep 10)

ARITHMETIC ANALYSIS

The teacher had planned to mainly utilize the levels of behavior marked below by asterisks.* Although the teacher planned to utilize problem solving as a method, it was not observed. As you will note, the teacher spent 80% of the class time focusing on the cognitive levels of knowledge and comprehension, which is expected while introducing new material. Verbally, the teacher was encouraging 80% of the time, while he was non-verbally encouraging 90% of the time. His inhibiting non-verbal expressions were due to lack of eye contact.

Arithmetic Results

Method

60% Demonstrate*
40% Direction

Affective

30% Receive
70% Respond*

Cognitive

40% Know*
40% Comprehend*
10% Apply*
10% Evaluate

Verbal

10% Support
40% Helping
30% Receptive
20% Routine

Non-Verbal

90% Helping
10% Inattentive

TRANSCRIPT #3

Size — Small Group

Topic — Reading

Situation — Introducing, Grade 3

Methods — Question, Direction, Clarification

Objectives — Comprehend, Analyze

TRANSCRIPT #3

(T — Teacher)
(S — Student)

T — Boys and girls, we have a new story today and the new story is called — Who can tell me what the name of it is? (Beep 1)

T — Yes, Theresa.
S — A pot of gold.
T — A pot of gold, right. Now this story is about two new friends that we don't know about yet. (Beep 2)

T — Who can tell me who these new friends are? What are their names?
S — James and Carl.
T — James and Carl. (Beep 3)

T — Can you tell me anything else about James and Carl? Yes.
S — They were the first, ah, — Well, they were the first little boys to go to Yo Ho Can.
T — Yes, (Beep 4)

T — they were the first little boys to go to the village. Can you tell me anything else about them, Julia?
S — They believed in the tale. (Beep 5)
S — In the story.
T — Well, they were different than the rest of the boys in Yo Ho Can. They were different from the rest of the boys. Can (Beep 6)

T — you tell me how?
S — I know.
T — Yes, Mike. (Beep 7)

S — Because they didn't speak, almost the way they talked, because they say you come and when, they . . . and they don't tell stories (Beep 8)

S — or stuff like that.

T — Yes, yes. How else are these two boys different from the other boys in the village? (Beep 9)

T — Camile.

S — Because when the . . . their friend, the Indian friend, told them this story and they believed it.

T — Well, now that is one thing they did, but how else are they different from the rest of the boys in the village? Roy (Beep 10)

READING ANALYSIS

The teacher had planned to focus mainly on the levels marked below by an asterisk.* The teacher utilized all of the methods she had planned, but did not focus a majority of the time (40%) on the cognitive levels that permitted students to comprehend and analyze. It is interesting to note that the teacher used a variety of methods and gained student response at a range of cognitive levels. This teacher utilized encouraging verbal and non-verbal expressions 90% of the time. The inhibiting non-verbal expressions were due to lack of eye contact with the students.

Reading Results

Method

30% Lecture-Talk
30% Question*
30% Direction*
10% Clarification

Affective

30% Receive
70% Respond*

Cognitive

30% Know
10% Comprehend*
30% Analyze*
30% Evaluate

Verbal

20% Support
20% Helping
50% Receptive
10% Routine

Non-Verbal

90% Receptive
10% Inattentive

TRANSCRIPT #4

Size — Small Group

Topic — Science

Situation — Introducing, Grade 4

Methods — Question, Problem Solving

Objectives — Know, Apply and Evaluate

TRANSCRIPT #4

(T — Teacher)
(S — Student)

T — You have choices here, things that would indicate to you that that owl is alive. How about something like the owl moves from place to place, why? (Beep 1)

S — Because it . . . it moves, it has, uh, it has energy.
T — OK, it does have energy. (Beep 2)

T — Yes?
S — It has to take in food.
T — It has to take in food. Is that why it has to move from place to place then? OK, the owl moves from place to place. Movement — to take in food. Now what happens when it take in food? (Beep 3)

T — Yes.
S — It gets, it grows.
T — OK, it grows. That's why we take in food, isn't it? If you (Beep 4)

T — don't eat, what happens?
S — You die.
T — Yes, but if you didn't eat very much what would happen?
S — You'd live.
T — You would end up about that short. (Beep 5)

T — OK, if you don't eat the right kinds of food, many times you don't grow right. Yes?
S — Sometimes if you don't eat like whole meats . . . meats food . . .
T — If you don't keep quiet (Beep 6)

T — We're going
S — If you don't eat your soul will . . . uh, you'll die.
T — Yes.
S — Because . . .
T — Now, how about the owl, though? (Beep 7)

T — We've said that the owl moves to take in food so that it can grow.
S — Reproduces?
T — OK, and reproduces its own kind.
S — and, and . . .
T — Because if it didn't grow into an adult, it wouldn't reproduce its (Beep 8)

T — own kind.
S — It gets inspiration
T — It . . . what?
S — Respiration.
T — Respiration, OK, as a result of eating it has the energy to breathe. Then this is the energy you were talking about. (Beep 9)

S — It reacts.
T — And it reacts, to what? Yes mam.
S — To the sun.
T — The owl would react to the sun? How does it react to the sun? (Beep 10)

SCIENCE ANALYSIS

The teacher planned to focus on the levels marked below with an asterisk.* Notice in the methods category that the teacher spent only 30% of his time using questions and problem solving. Also the cognitive levels of apply and evaluate were intended, but little or no time was spent at these levels. It should be noted that generally in a situation where new information is introduced, the cognitive levels are mainly limited to know or comprehend. The teacher was verbally and non-verbally encouraging 90% of the time. The 10% of the time he was inhibiting was for the purpose of classroom control.

Science Results

Method

50% Lecture-Talk
20% Question*
10% Demonstrate
10% Problem Solving*
10% Inquiry

Affective

50% Receive
50% Respond*

Cognitive

50% Know*
40% Comprehend
10% Apply*

Verbal

20% Support
20% Helping
50% Receptive
10% Disapproval

Non-Verbal

20% Helping
70% Receptive
10% Disapproval

SECONDARY CLASSROOM TRANSCRIPTS

TRANSCRIPT #1

Size — Large Group

Topic — English

Situation — Review, Grade 9

Methods — Lecture, Question, Problem Solving

Objectives — Know, Apply, Evaluate

TRANSCRIPT #1

(T — Teacher)
(S — Student)

T — Which, ah, three verbs here use an object?
S — Lay, set and raised.
T —Now, if you can keep that in mind (Beep 1)

T — ah, Whenever you have to test a verb or two, test which word you want to use. Remember that lay, set, raise must have an object. You must be laying something, setting something, raising something. The other three (Beep 2)

T — never have an object. And also keep in mind that the present, past and the past participle. You shouldn't have any trouble. For a short review we will go over these five sentences. (Beep 3)

T — Judy, could you come to the board and underline the correct form in this sentence and explain why?
S — Lay. It's a requirement.
T — It's required. (Beep 4)

T — And it is a form of a verb . . .
S — Lie
T — Lie. Very good. Thank you. Yolanda, you do number two. (Beep 5)

S — I used rose because (Beep 6)

S — he got up.
T — Well, are you raising anything?
S — No.
T — No. (Beep 7)

T — Does it have an object?
S — No.
T — No, so you know you use the (Beep 8)

T — verb rise.
S — Oh.
T — That's right. Connie, could you do number three? (Beep 9)

T — And why did you use that?
S — Oh, because the object set.
T — Right. (Beep 10)

ENGLISH ANALYSIS

The teacher planned to focus on the levels marked below with an asterisk.* The teacher spent more time than intended using lecture-talk, therefore limiting opportunity for students to respond. The teacher used the chalkboard to demonstrate verb usage and also to set up problems in verb usage for the students to solve. In a review situation the majority of the classroom interaction is generally planned for student response. Verbally, the teacher was encouraging 90% of the time, and non-verbally encouraging all of the time.

English Results

Method

40% Lecture-Talk*
20% Question*
20% Demonstrate
20% Problem Solving*

Affective

60% Receive
40% Respond*

Cognitive

60% Know*
20% Apply*
20% Evaluate*

Verbal

20% Support
40% Helping
30% Receptive
10% Routine

Non-Verbal

20% Support
20% Helping
60% Receptive

TRANSCRIPT #2

Size — Large Group

Topic — Algebra

Situation — Review, Grade 9

Methods — Lecture, Demonstrate, Problem Solving

Objectives — Know, Comprehend, Apply

TRANSCRIPT #2

(T — Teacher)
(S — Student)

T — Anytime two, three, four, five numbers, no matter what, how many numbers you have, as long as they are grouped within the parentheses, they are only counted as one part of the statement (Beep 1)

T — or the sentence. When we look at this, it is only considered as one of the factors of this multiplication problem. So that way they took the whole 2+9 and moved it into one unit. (Beep 2)

T — What about number 16? It says for each r, the sum of r+3 times 19 is going to be 19 times the sum of r+3. What have we here? (Beep 3)

T — Vickie?
S — Commutative.
T — Commutative again. This time they just didn't have the multiplication sign in for us. But this is another way of showing multiplication. Tomorrow for your homework on page 75, I would like to just have you work problems 21 through 26. But let's look quickly at 21 and see if we can do one before we start. It says 17 plus the sum of 38 plus 3 (Beep 4)

T — is going to be equal to the 17 plus the sum of 3 plus 38 and what they want you to tell them is what property did they use to get that problem from one side of the equals mark to the other. What property did they use there? (Beep 5)

T — Tricia?
S — Commutative.
T — And what did they commute in this problem, Tricia?

S — 17+3+38

T — Well, now it looks to me like 17 is in the same place. Isn't it in the first position? What did they commute, Rhonda? (Beep 6)

S — 38+3.

T — The 38+3. They just changed the positions of those two numbers and the 17 stayed the same. In the second step it goes to the sum of 17+3+38. What have they done here, Tonie?

S — Regrouped them.

T — Regrouped them and what property is that?

S — Associative.

T — The associative property (Beep 7)

T — so here you would write a, go ahead and copy the problem down, then for the first step we would write commutative and the second step associative and now where the check marks are, this just means that they have renamed it. 17+3, they have called it 20, so you don't have to write anything there. Where the check marks are. So that will give you, 2, 4, 6, 8, 10, 12, 14 different properties you want (Beep 8)

T — to work with or 14 different types of properties that want to work with. Yes, Vickie.

S — The third step on 21.

T — Yes.

S — Could you write in there the closure property. They change the sentence.

T — You would want to write it in the last one, wouldn't you? Where (Beep 9)

T — you have, where you know the sum is going to be another number. As yet see they haven't found the total sum. The last check mark, she is asking, after they add 20+38 and find out that to be 58, then this would be our closure property. Because it says two numbers added together will give us a number. So you can write that in if you want to or you can leave it just as (Beep 10)

ALGEBRA ANALYSIS

The teacher planned to focus on the levels marked below with an asterisk.* Although the teacher planned to utilize the methods of demonstrate and problem solving, during the class he did not use them a majority of the time. Much of the class period was spent in an attempt to encourage and assist students in learning the matematical properties. This type of procedure limits learning to the know and comprehend levels. It is indicated in the classroom performance that the students do not know the mathematical properties well enough to apply them. Therefore, some drill and practice may be necessary in order to obtain the apply objective. The teacher expressed himself in an encouraging manner both verbally and non-verbally a majority of the time. The instances of non-verbal inattentiveness are due to lack of eye contact with the class.

Algebra Results

Method

70% Lecture*
20% Question
10% Direction

Affective

70% Receive
30% Respond*

Cognitive

70% Know*
20% Comprehend*

Verbal

10% Support
60% Helping
10% Receptive
20% Routine

Non-Verbal

10% Support
70% Receptive
20% Inattentive

TRANSCRIPT #3

Size — Large Group

Topic — French

Situation — Review, Grade 10

Methods — Question, Mastery-Drill

Objectives — Know, Comprehend

TRANSCRIPT #3

(T — Teacher)
(S — Student)

T — Commencez: a, b, c, d (Beep 1)

T — e, f
S — A, b, c, d, e,
T — Apres f (Beep 2)

T — vous avez g, h, i, j, k, l, m, n, o, (Beep 3)

T — p, q, r, s, t, u, v,
S — f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w,
T — double v, oui (Beep 4)

T — x, y, z. Bien, bon, alors. From yesterday, who can remember the (Beep 5)

T — six pronouns that we put on the board? Who can remember the six pronouns? Mademoiselle.
S — Ah, first we have um, je.
T — Je, oui. And which person is this? (Beep 6)

S — First person, um
T — First person
S — Then you have "tu"
T — "tu," second person.
S — um, "il."
T — "il," third person.
S — "elle"
T — "elle" — bien (good) (Beep 7)

T — Now, are these two both third person?
S — um huh.
T — oui. Alors. How about the plural forms? (Beep 8)

S — Nous avons
T — Nous
S — Vous
T — Vous
S — Ils
T — Ils (They) (Beep 9)

T — Ils and?
S — Elles
T — Elles. Remember yesterday when we compared these two? In sound. Is there any difference in sound (Beep 10)

FRENCH ANALYSIS

The teacher planned to focus on the levels marked below with an asterisk.* The teacher utilized the methods she planned and obtained the student responses she expected. Cognitively, she intended student translation, in order to work at the level of comprehension. This was a minimum part of the class, with the knowledge level responses being the major focus. The teacher was very encouraging verbally and non-verbally. The non-verbal inattentivenes was due to lack of eye contact with the class while addressing them.

French Results

Method

10% Lecture
30% Question*
10% Demonstrate
50% Mastery-Drill*

Affective

90% Respond*
10% Value

Cognitive

70% Know*
30% Evaluate

Verbal

20% Support
30% Helping
50% Receptive

Non-Verbal

10% Support
30% Helping
50% Receptive
10% Inattentive

TRANSCRIPT #4

Size — Large Group

Topic — Chemistry

Situation — Discussion, Grades 11-12

Methods — Question, Demonstrate, Clarification

Objectives — Comprehend, Synthesize

TRANSCRIPT #4

(T — Teacher)
(S — Student)

T — So what could we say about equilibrium? Can you tell me what equilibrium is? What would be a definition of equilibrium? (Beep 1)

S — When the substances are almost the same or are equal?
T — When the substances are just the same or equal. Go ahead. Well can you explain that just a little more in detail?
S — When the substances in there change, when they're sort of like a balance between.
T — OK. I think . . . Chris, can you help? (Beep 2)

S — Isn't it when the forward reaction is the same as the reverse reaction.
T — Good, very good. (Beep 3)

T — Yes. When the reverse reaction is equal to the forward reaction, we can say rate here probably, when the forward rate is equal to the reverse rate. Very good. Judy, put together some of the ideas that we worked with today.
S — Well first, equilibrium. (Beep 4)

S — and that's where you have constant temperature, constant color and the rate of reverse reaction is equal to the rate of forward reaction. And then we talked about the closed systems and also if you alter chemical (Beep 5)

S — reactions there is two ways you can do this, through concentration or temperature.
T — Very good.
T — Let's see if we can just hit on some of the key words that Judy touched on. Close dsystem (Beep 6)

T — that's necessary, closed system. We can certainly point that out here by talking about the gases, we have a closed system

here and for all practical purposes we stated that the liquid was also closed. What was another factor (Beep 7)

T — that Judy mentioned?

S — Concentration.

T — Concentration. Right. When you have the same concentration, what can you tell me about color?

S — It's uniform. (Beep 8)

T — It's uniform, we certainly can point that out here, can't we? We have different concentrations and of course you have uniform color. And there was one other thing that Judy mentioned. (Beep 9)

S — Temperature.

T — Temperature, OK. So we would certainly say that you have uniform temperature? We are asuming then in this situation that the uniform temperature is found here because (Beep 10)

CHEMISTRY ANALYSIS

The teacher planned to focus on the levels marked below with an asterisk.* The teacher utilized a variety of methods, thus enabling him to achieve student responses at a range of cognitive levels. Notice that during the summary discussion the students were responding for 70% of the classroom session. By using student responses and encouraging participation, the teacher was able to meet his objectives. The teacher's expressions, both verbally and non-verbally, were all of an encouraging nature.

Chemistry Results

Method

30% Lecture
40% Question*
10% Demonstrate*
10% Direction
10% Clarification*

Affective

20% Receive
70% Respond*
10% Value

Cognitive

50% Knowledge
20% Comprehend*
20% Synthesize*
10% Evaluate

Verbal

20% Support
20% Helping
60% Receptive

Non-Verbal

10% Support
10% Helping
80% Receptive

TRANSCRIPT #5

Size — Large Group

Topic — American Problems

Situation — Discussion, Grades 11-12

Methods — Clarification, Inquiry, Dialogue

Objectives — Comprehend, Analyze, Synthesize

TRANSCRIPT #5

(T — Teacher)
(S — Student)

T — Let's try to summarize what's happened in this class discussion. There are two questions that I would like to give some attention to. Ah, what is the value of studying the history of our treatment of minority groups?

S — Maybe to prevent future prejudice. We can see what we (Beep 1)

S — have done in the past and maybe trying to help ourselves by trying to accept these minority groups and not give them treatment that other minority groups have been given.

T — You do see some value here in looking at history? (Beep 2)

S — Wouldn't it also show you how ridiculous some of these feelings you have against prejudice and everything. How ridiculous they look when everything is brought out into the open?

T — Yes, I (Beep 3)

T — especially like that point. You might want to try to bring this thing up to date a little bit. What are the similarities and differences in the treatment of minority groups today as compared to the treatment in the past? Is it anymore difficult to get in the majority and work your way up in social class rank? Can you see any similarities or differences?

S — Yes, I think that it is easier (Beep 4)

S — nowadays to go up in the ranks more. Like in the past history a Negro was a Negro. He was considered bottom, you know, low man on the totem pole and nothing more no matter whatever he did he could never bring himself above that. No matter how (Beep 5)

S — much college or schooling, anything he had. He could never

bring himself above that and now he can.

S — Well, they weren't given a chance for education in the past and now when they do have the chance, they really don't, it is harder for them, they really haven't had an education before and now they have it, it is harder to — to do something that you didn't know before.

S — I think that in the past they discriminated against them because they wanted to conform or they wanted to join or they were trying to be like other people. They wanted just as many equal rights as the WASP, I guess. But today, (Beep 6)

S — there is discrimination because now that they have these rights they just sit back and you know, let them just stay there. I mean they don't take advantage of them in a sense. And now they are discriminating against that. Now that they have these rights, why don't they use them? They put up so much fight, fuss and fight, and cause so much pain and anguish. Now that they got them, they more or less let them rot.

T — Do you have something to say about that?

S — Yes, I do have something to say. No, but as far as for education and everything sure they have the (Beep 7)

S — opportunity for the education, but as far as their ancestors' background. Like all their grandparents and their grandparents before that they never had education. They came from this background that doesn't know how to (Beep 8)

S — read and know how write. So in other words, they are just brought out in the blue and here they have the education but they have no background to bring them into the education. This is going to take a long time for them to develop the background in order so that they can take advantage of this now.

S — Well, I understand that point, but in the past I don't think it was so much that they wanted to be on their own (Beep 9)

S — completely. They probably wanted to own, but they also wanted equal rights. Just like everyone else to be able to have eduation. To be able to have a job next to this anglo saxon without having him turn around and throw stones at him or something, and then to be able to go home to his own little community without having people come up to him and get angry and call him (Beep 10)

AMERICAN PROBLEMS ANALYSIS

The teacher had planned to focus on the levels marked below with asterisks.* The teacher was able to utilize a variety of methods and evoke a range of cognitive student responses. Notice that the teacher was totally encouraging verbally and non-verbally. Seldom is a teacher able to abstain from interjecting himself into a student discussion without inhibiting or controlling it. By utilizing the methods of clarification, inquiry and dialogue, a majority of the time, this teacher was able to allow class discussion without controlling it. It is important to observe that the teacher in this session was only indirectly involved in the classroom interaction.

American Problems Results

Method

10% Lecture
20% Question
30% Clarification*
20% Inquiry*
20% Dialogue*

Affective

90% Respond*
10% Value

Cognitive

10% Know
10% Analyze*
50% Synthesize*
30% Evaluate

Verbal

100% Receptive

Non-Verbal

100% Receptive

APPENDIX A

TSA Observation Terms and Definitions

METHOD

CLOSED

Lecture — teacher talk or information giving.

Demonstrate — teacher supplements talk with visual clues or external props.

Direction — teacher commands or insists students to comply.

Question — teacher interrogative request for specific information.

Mastery — teacher drills or practices specifics with students.

Problem Solving — teacher sets or poses a situation which requires the student to arrive at a predetermined solution.

OPEN

Clarification — teacher permits the student to express or elaborate feelings, opinions or thoughts without interruption.

Inquiry — teacher pursues and challenges student statements, or permits students to question.

Dialogue — teacher allows students to interact, react, and discuss a topic or idea with interjections, but not inhibiting behavior.

OBJECTIVES

AFFECTIVE

Receive — teacher intends the student to listen or be conscious of current classroom activity.

Respond — teacher intends for the student to comply.

Value — teacher intends for the student to realize the worth of information, idea, belief, or concept, by utilizing words such as "good," "beautiful," "excellent," etc.

COGNITIVE

Know — teacher intends the student to recall specific information, for which there is only one correct answer.

Comprehend — teacher intends the student to translate, interpret in his own words, predict or summarize given material.

Apply — teacher intends the student to use the information in a situation that is different from the situation in which it was learned.

Analyze — teacher intends the student to separate, compare, and establish relationships between concepts, information and ideas.

Synthesize — teacher intends the student to combine previous learned information and concepts into an original entity that satisfies the student.

Evaluate — teacher intends the student to make a choice or selection from a predetermined number of alternatives.

		Support — teacher praises, repeats student response or uses student idea.
		Helping — teacher repeats statement or gives cues and assistance that aids student.
E	V E	Receptive — teacher indicates to a student that the lines of communication are open.
X	R B	Routine — teacher expressions which cannot be categorized, as encouraging or inhibiting.
P	A L	Inattentive — teacher disinterest or impatience displayed by statements such as "hurry up," "not now," etc.
R		Unresponsive — teacher openly ignores student question, request or response.
E		Disapproval — teacher admonishes, reprimands, or threatens student.
S		
		Support — teacher gestures facial expressions and voice tone
S		that convey approval.
	N	Helping — teacher gestures and pointing that assist students.
I	O	Receptive — teacher maintains eye contact with students.
	N	Routine — teacher movements that cannot be coded as encour-
O	V	aging or inhibiting.
	E	Inattentive — teacher does not maintain eye contact or body
N	R	gestures that demonstrate an unwillingness to listen.
	B	Unresponsive — teacher gestures that openly ignore a student
S	A	request.
	L	Disapproval — teacher frowns, gestures, and voice tones that convey dissatisfaction with student behavior.

APPENDIX B

TSA Ground Rules

Although the definitions of the TSA Observation System are adequate for the major part of coding teacher methods, objectives and expressions, there are instances when you could mark more than one method, objective or expression. Therefore, the following ground rules have been established in order to help you to determine in a reliable manner which level of the teacher's methods, objectives and expressions you should code.

GROUND RULE 1 If you have marked the Respond level of the Affective Objectives category, then in the Verbal Expressions category, you will always mark the Receptive level, unless the teacher is clearly helping or suptive. When the teacher desires the student to respond, he has implied that the lines of communication are open, and that he is receptive to the student reply.

GROUND RULE 2 If, when coding levels of the Methods, Affective and Cognitive categories, you are uncertain concerning two levels within the category, always code the level farthest from the top of the card. For instance, if you are uncertain as to whether the method is Lecture or Demonstrate, you would mark Demonstrate.

GROUND RULE 3 If there is no teacher talk at the beep, mark the last teacher verbal behavior before the beep. You are assuming that the current silence is the on-going teacher verbal behavior.

GROUND RULE 4 When the teacher permits students to express their ideas, opinions and thoughts for the complete interval between beeps, then the method level is changed and marked as Clarification.

GROUND RULE 5 When the teacher is not in the picture or is unobservable, the Routine level is marked in the non-verbal expressions category.

GROUND RULE 6 If, in marking levels of verbal and non-verbal expressions a concern arises between levels of encouraging or inhibiting expressions, always mark the encouraging level (i.e., if concerned about Helping or Disapproval, Helping would be marked). If the concern is with two levels above Routine or two levels below Routine, always mark the level farthest from Routine (i.e., if concerned about Helping or Support, Support would be marked).

GROUND RULE 7 If, at the beep, enough teacher verbal behavior is not given in order to code, play beyond the beep until you have enough clues to code. Never guess or assume what the teacher is going to say.

GROUND RULE 8 Questions such as: can you?, would you?, do you?. etc., offer students yes/no responses, or a forced selection. These questions take much interpretation on the student's part if he is to guess what the teacher really wants. They are marked in the Cognitive Objectives category at the level of Evaluate. Since the student does not have to know anything about the idea or topic in order to respond yes or no, these questions provide little feedback on student Cognitive learning.

GROUND RULE 9 When the teacher asks a question and names a student at the conclusion of the question, the method level of Direction is marked (i.e., "What time is it, Jack?"). When the teacher identifies the student and then poses the question, the method level of Question is marked (i.e., "Jack, what time is it?").

APPENDIX C

Suggested Readings and Resources Related to Teacher Self-Appraisal

Allen, Paul, W. Donald Barnes, Jerald Reece, and E. Wayne Roberson. *Teacher Self-Appraisal: A Way of Looking Over Your Own Shoulder.* Charles A. Jones Publishing Company (Worthington, Ohio, 1969).

Armstrong, Robert, Terry Cornell, Robert Kraner, and E. Wayne Roberson. *The Development and Evaluation of Behavioral Objectives.* Charles A. Jones Publishing Company (Worthington, Ohio, 1969).

Combs, Arthur W., ed. *Perceiving, Behaving, Becoming.* Yearbook, Association for Supervision and Curriculum Development, N.E.A. (Washington, D. C., 1962).

Jackson, Philip W. *Life in the Classroom.* Holt, Rinehart & Winston, Inc. (Chicago, 1968).

Leonard, George B. *Education and Ecstasy.* Delacorte Press (New York, 1968).

Peter, Laurence J., and Raymond Hull. *The Peter Principle.* William Morrow and Company (New York, 1969).

Simon, Anita, and E. Gil Boyer, ed. *Mirrors for Reflecting Behavior.* Research for Better Schools, Inc. (Philadelphia, 1967).

Simpson, R. H. *Teacher Self-Evaluation.* Macmillan Company (New York, 1966).

APPENDIX D

Computer Analysis and Profiles

If computer facilities are available, then a wide range of analyses can be yours. TSA computer programs are available from BECOM Corp. for a nominal fee. These programs include the following types of analysis:

1. Percentage print-outs of each category and level.
2. A correlation of the teacher's planned performance and actual performance.
3. Should you desire to have someone else code your tape, a print-out identifying disagreements and what level each of you coded can be obtained. This is especially helpful in gaining some insight into how others perceive you.
4. A profile of your teaching which illustrates your effectiveness in obtaining your planned teaching performance.

In order to obtain more information, send your request to:

BECOM CORP.
630 North Craycroft, Suite 110
Tucson, Arizona 85711